Remarks

In spite of applicant's explanation in the last response, the examiner again contends the term "θ" is indefinite. Accordingly, some amendatory language has been added to claims 1 and 18. Support for the language may be found on page 4, line 13, and in the well known definition of a hypocycloid. One need not resort to a mathematical textbook to find the definition of a hypocycloid – an ordinary dictionary will do. It is a function determined by a circle rolling on the inside circumference of a fixed circle. As applied to the present invention θ is the angle of the center of the gerotor circle (the small circle) with respect to the center of the gerotor guide circle (the fixed, or large circle) as it rotates. At any given angle θ in the rotation, the parametric equation will generate a point, as is known in the art. The amendments made to claims 1 and 18 are intended simply to state what happens by definition in the generation of points by a hypocycloid function. Again, see the discussion on page 9 and elsewhere with respect to Figures 1-3, 5 and 6, where it is made clear that the dotted line circles represent the hypocycloid function.

The examiner says "applicant should clarify/define which lines formed the θ." It should be understood, and will be understood by persons skilled in the art, that parametric equations are solved, or manifested, more or less geometrically, on a grid. In this case, if the center of the large circle is at the point 0,0 on an x,y axis, and the small circle is rolling on the inside of its circumference, a line drawn from the point in the center of the small circle to 0,0 will determine the constantly changing angle θ from the central vertical axis of the grid, passing through 0,0. Thus, as explained previously, θ is the angle of the center of a small circle with respect to the center of a large circle within which the small circle is rolled while remaining in contact with the large circle, and this is the language which has been added to claims 1 and 18. As the imaginary small circle rolls, the angle θ changes, and the points of the gerotor guide are generated. As required by claim 1, for example, any point on the gerotor guide profile will satisfy the parametric equation, and will correspond to a particular θ. It is believed that the amendments to claims 1 and 18 overcome the rejections of claims 1-7 and 18-20 under 35 USC 112. The mathematical functions and relationships will be the same whether the center of the large circle is at 0,0 or at some other point, and accordingly it is not necessary to specify an x-axis for the gerotor guide profile to satisfy the equation, as the examiner seems to suggest on page 4..

Referring now to the rejections of claims 12-16 and 21 under 35 USC 102 (b), please note, first of all, that claim 21 was canceled in the last response, as apparently acknowledged on examiner's page 1. .

Examiner's explanations of the rejection of claims 12-16 on page 3 and the "Response to Arguments" on page 4 both make unwarranted assumptions about a planar bearing surface. The planar bearing surface is "read by the examiner" (p.4) as the surface between the shelf and the cam surface. But there is no mention in the passage cited by the examiner (column 7, line 41 to column 8, line 8) of a planar bearing surface, or of any kind of bearing, nor is it said that the shelf and the cam surface are in contact. Figure 10, in fact, is described in the same passage as "yet another variation of the 4:3 internal gear set," meaning the internal gear described first in

Figure 8, and then the variation of Figure 9. Gear rotor 100 of Figure 10 is a variant of internal gear 82 of Figure 8 and cam 103 of Figure 10 is a variant of ring gear 80 of Figure 8. As clearly depicted in Figure 8, there is no planar bearing between either shelf 84 or internal gear 82 and any other surface. The bearing surface in Figure 8 is item 90C (column 6, line 50), and nothing is shown in Figures 9 and 10 to replace it. Figures 9 and 10 illustrate 4:3 guiding or rotation systems which will assure the correct rotation as alternatives to the system of Figure 8. See column 6, lines 63-68 and column 7, lines 42 et seq. The discussions about Figures 9 and 10 are entirely about rotation guidance; there is no disclosure or discussion about bearings in any of the text about these three figures except the reference to item 90C in Figure 8. Figure 10 shows only a guiding mechanism and not a bearing means, and should not be otherwise "read by the examiner.". As item 90C is not a planar bearing surface, and is not on either the underside of the turntable or the underside of the gerotor, the rejection should be withdrawn.

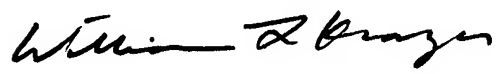
Re claim 15 in particular, calling for three substantially identical lobes on the gerotor, the Krayer '592 reference does not show lobes on a gerotor, in Figure 10 or anywhere else. Items 106 are not lobes, but points – column 7, lines 60, 64. A lobe, by definition, is round or rounded. A point, by definition, is a sharp end. The ordinary and customary meanings of these words are opposites.

The rejections of claims 12-16 should be withdrawn in view of the above comments.

In reviewing the examiner's objection to claim 17, an inadvertent mistake by applicant was observed, namely that the amendments to claims 11 and 17 presented in the preliminary amendment of April 9, 2004 were not reflected in the claims listing in the last response. Accordingly these amendments are reflected in the present list, claims 11 and 17 being listed as "previously presented." The amendments were noted in the Official Action of March 3, 2006. Re the present objection to claim 17, applicant has not rewritten it in independent form because applicant believes claim 12, on which it is dependent, is allowable.

Please note the attached listing of claim status.

Respectfully submitted,



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